The Savage-Bayesian Foundations of Economic Dynamics

Yaw Nyarko

Abstract

In this paper I provide a framework general enough to study economic dynamics in a multi-agent model where each agent has imperfect information both on the "fundamentals" of the economy (or "game") and also imperfect information on the actions or strategies being used by other agents. This paper generalizes the work of Ambruster and Boge (1979), Boge and Eisele (1979), Mertens and Zamir (1985), and others in the following ways: **(i)** First, the emphasis of this paper will be on ***dynamic*** models. **(ii)** Like Harsanyi (1968), this paper will "go behind the veil" and model an ***ex ante*** period before agents are "born" and realize their individual characteristics. Agents will be assumed to have ex ante subjective beliefs, which do ***not*** necessarily obey the common prior assumption. **(iii)** The study of a dynamic model leads naturally to a new concept of ("versions" or equivalence classes of) ***belief hierarchies over a random variable*** at some future date n conditional on data observed by that date. **(iv)** I consider the basic space of uncertainty to be both the fundamentals ***and*** the strategies of the agents. This allows for a unification of the literature (where different underlying spaces are used) and also allows for a precise definition of the various notions of a "type" used in the literature.

Journal of Economic Literature No's: C70, C73, D81, D82, D83, D84.

Mailing Address
Yaw Nyarko
New York University
269 Mercer St. Rm 723
New York N.Y. 10003, U.S.A.